OPERATING SUMMARY

1974

SIDNEY TWP.- (BATAWA)

WATER POLLUTION CONTROL PLANT

Ontario

MINISTRY OF THE ENVIRONMENT

MINISTER
Honourable William G. Newman

DEPUTY MINISTER
E. Biggs

ASSISTANT DEPUTY MINISTER
REGIONAL OPERATIONS
J. Barr

REGIONAL OPERATIONS DIVISION

DIRECTOR, SOUTHEASTERN REGION
C.E. McIntyre

MANAGER, UTILITY OPERATIONS
A. Symmonds

SIDNEY TWP.- (BATAWA)

WATER POLLUTION CONTROL PLANT

operated for

THE TOWNSHIP OF SIDNEY (BATAWA)

by the

MINISTRY OF THE ENVIRONMENT

1974 ANNUAL OPERATING SUMMARY

prepared by

Plant Performance Unit

TECHNICAL SERVICES BRANCH

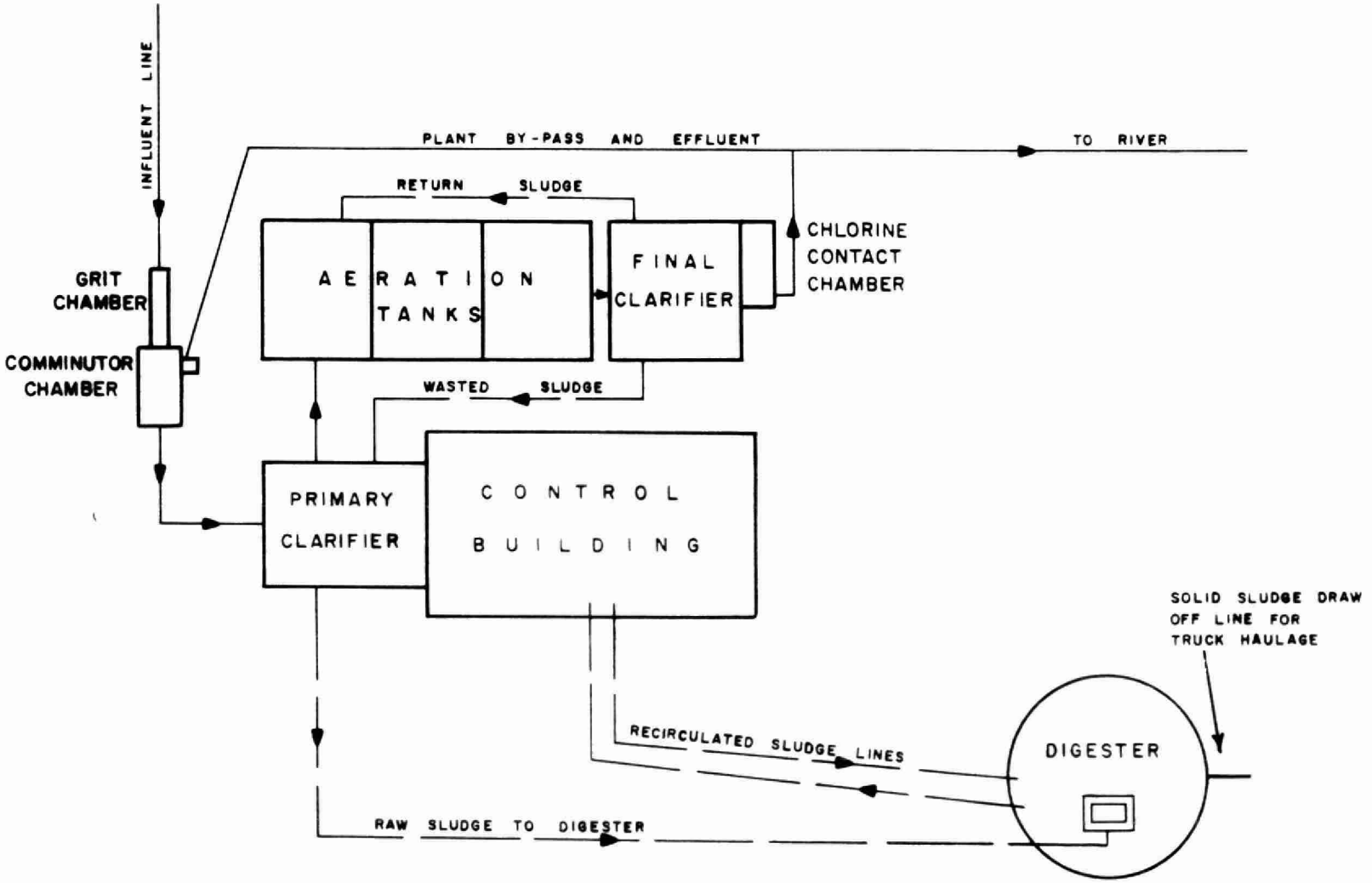
T. Cross, Director

CONTENTS

TOWNSHIP OF

SIDNEY - BATAWA W P C P

FLOW CHART



DESIGN DATA

PROJECT Sidney Twp. WPCP

PROJECT NO. 2-0121-62

TREATMENT Activated Sludge

DESIGN FLOW 0.12 mgd

DESIGN POPULATION 1,500

BOD - Raw Sewage 220 mg/l
- Removal 90%

SS - Raw Sewage 250 mg/l
- Removal 90%

PRIMARY TREATMENT

Grit Removal

Type: Channels, manually cleaned
Size: Two 9' 3" x 9" x 6" swd
Flow Velocity: 0.6 fps
Retention: 16.6 sec

Comminution

- One Chicago Pump, Model 10A

Screening

One $1\frac{1}{2}$" c-c on comminutor bypass
One $1\frac{1}{2}$" c-c on plant bypass

Primary Sedimentation

Size: One 16' x 16' x 11' swd
(9,130 gal)
Retention: 1.83 hr
Loading: Surface, 468 gal/ft^2/day
Weir, 3750 gal/ft/day

SECONDARY TREATMENT

Type: Diffused air; three-pass
Size: One 30' x 20' x 10' swd
(37,400 gal)
Retention: 7.5 hr

Diffusers: Ceramic Tubes

Spacing: 9 per pass (2 passes)
12 per pass (1 pass)

Air Supply

Type: Sutorbilt
Size: Two 140 scfm @ 6 psi

Secondary Sedimentation

Type: Falk
Size: One 20' x 12' x 10' swd
(15,000 gal)
Retention: 3.0 hr
Loading: Surface, 500 gal/ft^2/day
Weir, 5000 gal/ft/day

CHLORINATION

Type: Advance
Size: 50 lb/day

Chlorine Contact Chamber

Size: One 10' x 4' x 8' (2,000 gal)
Retention: 24 min

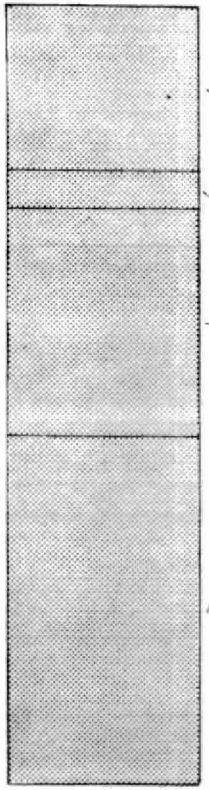
OUTFALL

- to Trent River

SLUDGE HANDLING

Type: Fixed cover, integral heat exchanger coils
Size: One 20' dia x 17' 4"
(6,000 cu ft or 37,500 gal)
Loading: 1.5 lb/cu ft/mo

ANNUAL COSTS



1974 OPERATING COSTS

- SALARIES & WAGES — 19 %
- EMPLOYEE BENEFITS
- TRANSPORTATION & COMMUNICATIONS — 5 %
- SERVICES — 30 %
- SUPPLIES & EQUIPMENT — 46 %
- AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS
- TRANSFER PAYMENTS
- OTHER TRANSACTIONS

YEARLY OPERATING COSTS

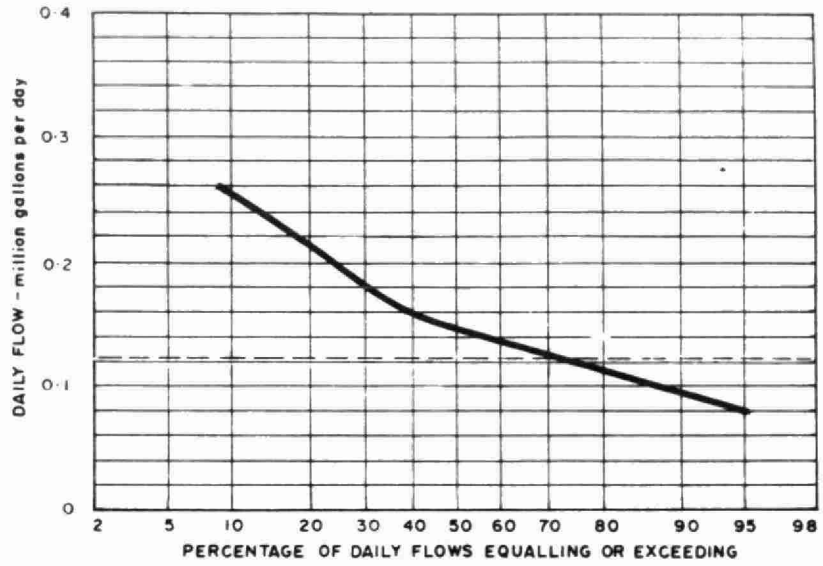
YEAR	SEWAGE TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS $/M.G.	UNIT COSTS ¢/lb BOD
1969	119	9, 315	78	31
1970	108	9, 800	91	39
1971	111	11, 434	103	81
1972	84	12, 384	141	36
1973	60	14, 980	250	31
1974	54	8, 542	157	26

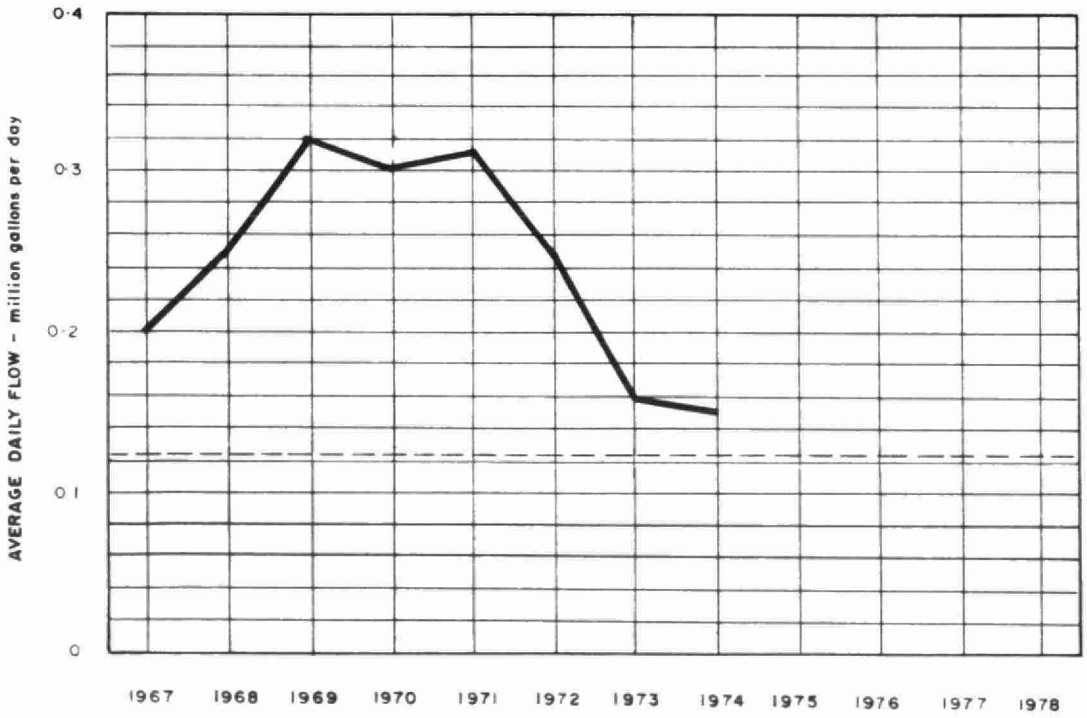
OPERATING EXPENDITURES

Regular Staff	$ 1,596	$
Casual (Unclassified) Staff	-	
TOTAL SALARIES AND WAGES		1,596
TOTAL EMPLOYEE BENEFITS		-
TOTAL TRANSPORTATION AND COMMUNICATIONS		443
Insurance	508	
Sludge Haulage	1,947	
Repairs and Maintenance	24	
Other Services	83	
TOTAL SERVICES		2,562
Machinery and Equipment	246	
Chemicals	868	
Utilities	2,408	
Other Supplies and Equipment	419	
TOTAL SUPPLIES AND EQUIPMENT		3,941
TOTAL AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS		
TOTAL TRANSFER PAYMENTS		
OTHER TRANSACTIONS		
GRAND TOTAL	GRAND TOTAL	$ 8,542

PROCESS DATA

FLOWS



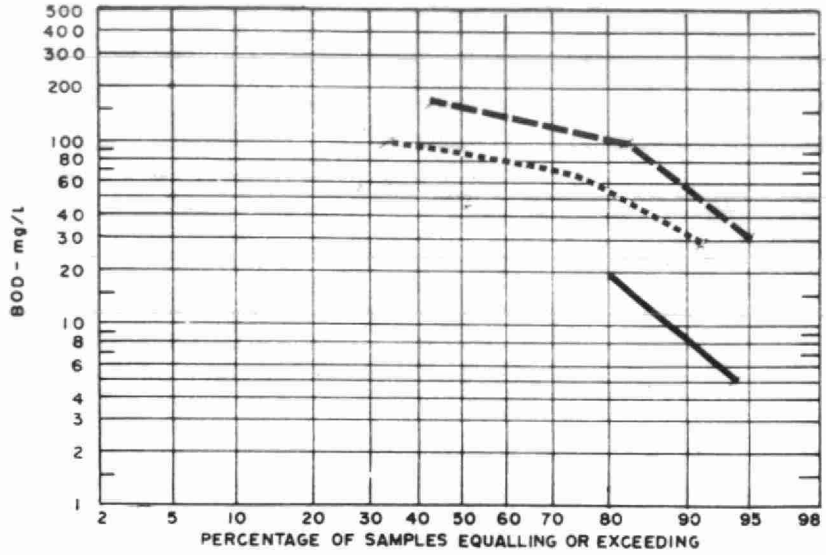


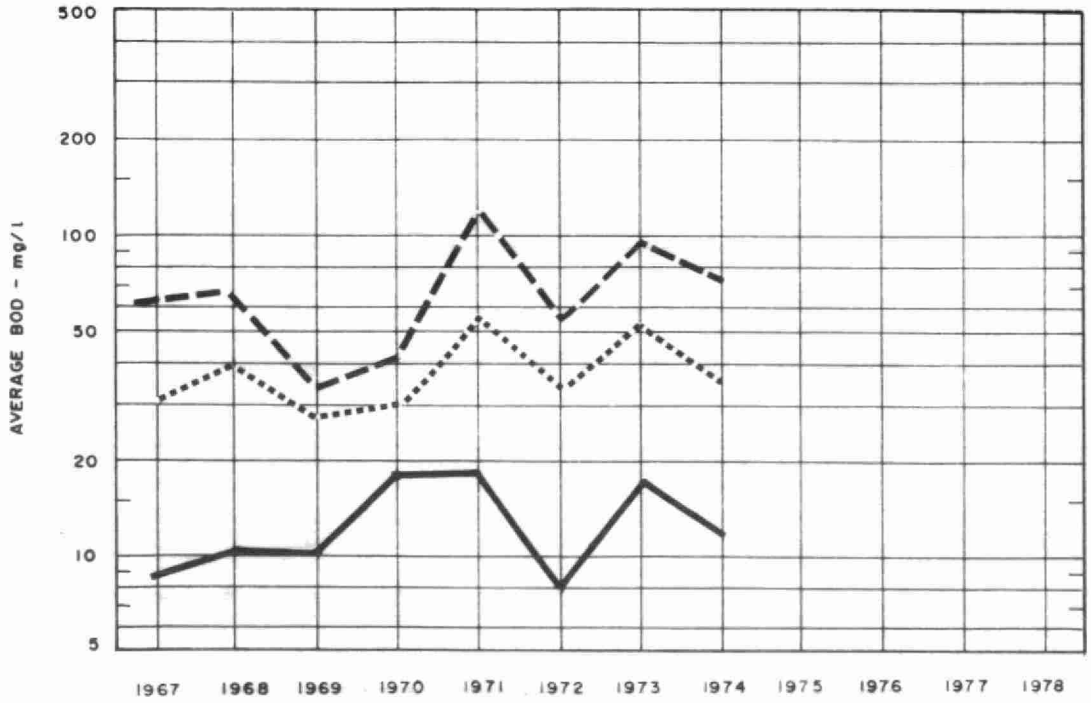
DESIGN CAPACITY _ _ _ _ _ _ _

PLANT PERFORMANCE

MONTH	FLOWS			BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				PHOSPHORUS	
	TOTAL FLOW	AVERAGE DAY	MAXIMUM DAY	INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT
	million gallons	mil. gal	mgd	mg/l	mg/l	%	10^3 pounds	mg/l	mg/l	%	10^3 pounds	mg/l P	mg/l P
JAN	5.54	.18	.41	51	19	63	1.8	38	15	61	1.3	1.7	.4
FEB	4.25	.15	.32	105	20	81	3.6	85	40	53	1.9	4.1	.9
MAR	6.08	.32	.43	16	20	0	0	45	20	56	1.5	1.3	1.0
APR	6.72	.22	.37	34	10	71	1.6	25	10	60	1.0	2.6	.4
MAY	5.93	.19	.33	67				45				2.9	
JUNE	3.60	.12	.15	57	6	89	1.8	88	15	83	2.6	2.6	1.6
JULY	3.83	.12	.17	45	18	60	1.0	45	22	51	.9	3.1	1.0
AUG	3.28	.11	.18	66	10	85	1.8	85	15	82	2.3	3.1	.6
SEPT	2.62	.09	.12	155	6	96	3.9	95	15	84	2.1	4.0	1.0
OCT	3.21	.10	.25	44	6	86	1.2	40	15	62	0.8	3.9	.7
NOV	3.37	.11	.26	130	10	92	4.0	140	15	89	4.2	3.9	.5
DEC	5.89	.19	.35	44	6	86	2.2	42	15	64	1.6	2.8	.7
TOTAL	54.32	-	-	-	-	-	32.6	-	-	-	25.0	-	-
AVG.		.15	MAXIMUM .43	72	12	83	2.7	65	19	71	2.1	2.7	.8
No. of Samples	-	-	-	19	17	-	-	20	17	-	-	21	21

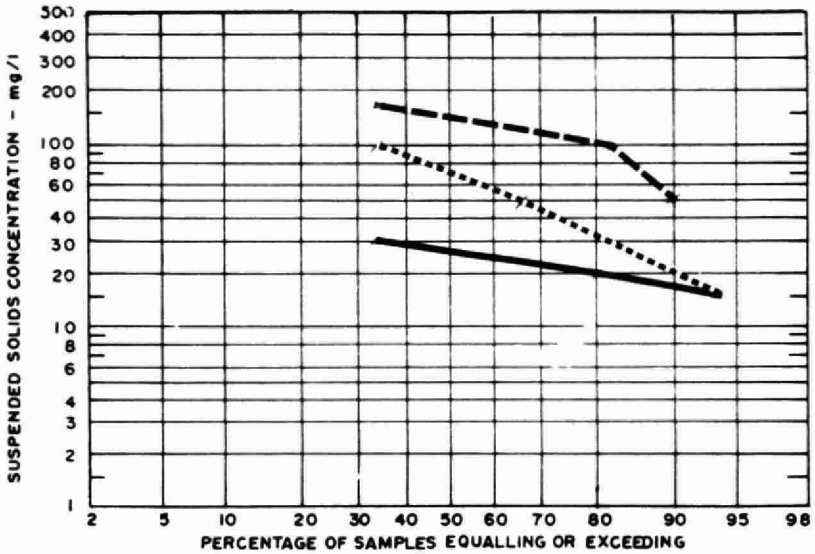
BIOCHEMICAL OXYGEN DEMAND

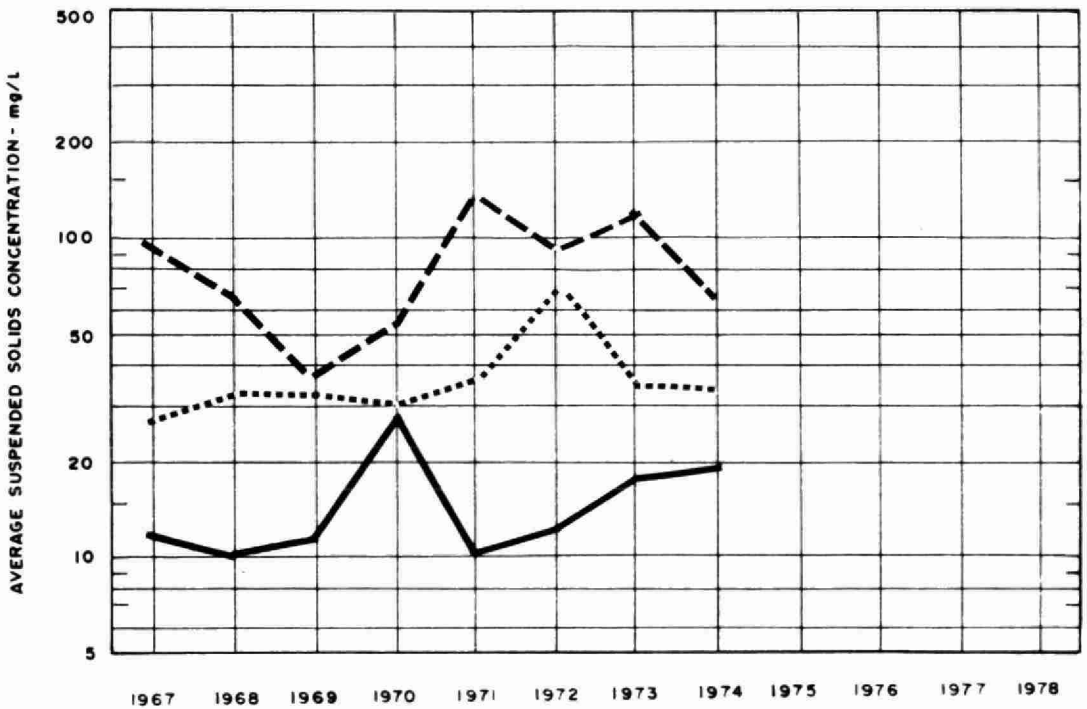




PLANT INFLUENT
PRIMARY EFFLUENT
PLANT EFFLUENT

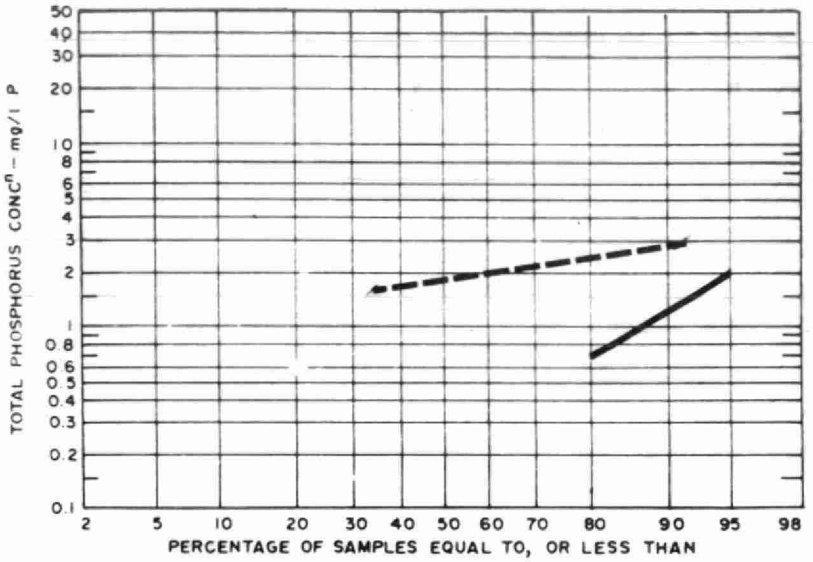
SUSPENDED SOLIDS

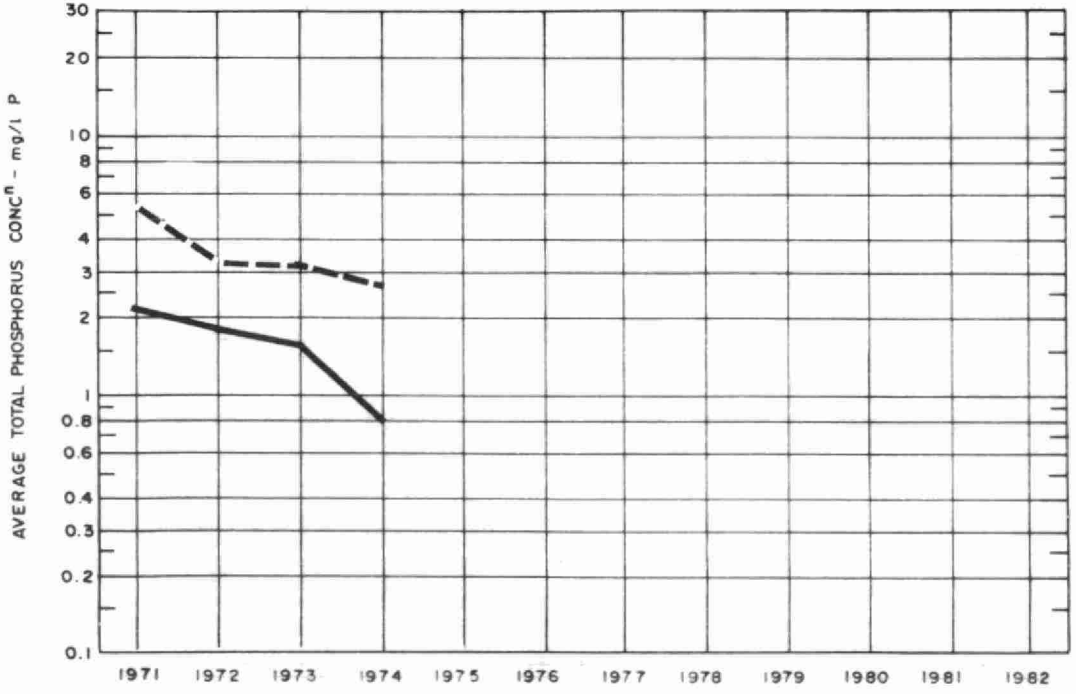




PLANT INFLUENT
PRIMARY EFFLUENT
PLANT EFFLUENT

PHOSPHORUS

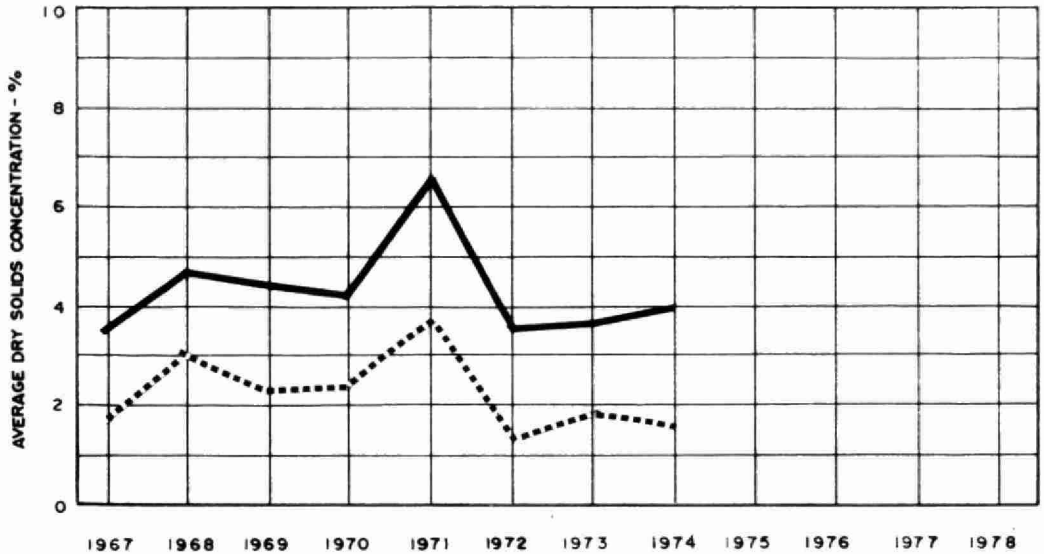


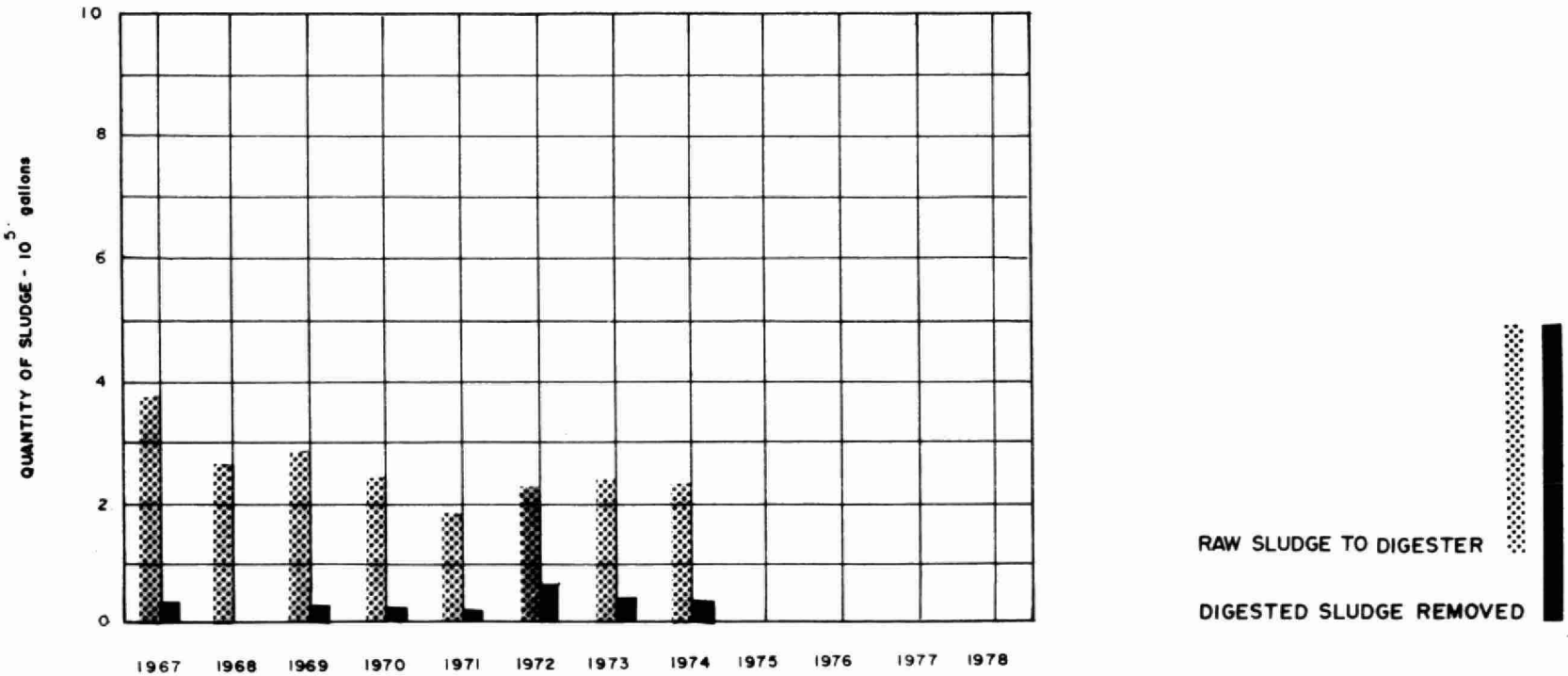


PLANT INFLUENT

PLANT EFFLUENT

DIGESTION


AVERAGE DRY SOLIDS CONCENTRATION - %
0
2
4
6
8
10
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
RAW SLUDGE
DIGESTED SLUDGE


QUANTITY OF SLUDGE - 10^5 gallons
0
2
4
6
8
10
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
RAW SLUDGE TO DIGESTER
DIGESTED SLUDGE REMOVED

TREATMENT DATA

MONTH	GRIT	CHLORINATION		PRIMARY EFFLUENT		AERATION			SLUDGE DIGESTION and DISPOSAL							
									RAW SLUDGE			DIGESTED SLUDGE			SUPER-NATANT	AMOUNT HAULED
	QUANTITY REMOVED	Cl_2 USED	AVG. DOSE	BOD	SUSPENDED SOLIDS	MLSS CONC	F/M	AIR	QUANTITY	TOTAL SOLIDS	VOL. SOLIDS	QUANTITY	TOTAL SOLIDS	VOL. SOLIDS	T. S.	
	cubic feet	pounds	mg/l	mg/l	mg/l	mg/l	day^{-1}	$\frac{1000\ ft^3}{lb\ BOD}$	10^3 gallons	%	%	10^3 gallons	%	%	%	cubic yards
JAN		145	2.8	50	30	2800	.07		18.3	1.7			4.3		.1	
FEB	4	156	3.7	70	40	2000	.15		16.8				2.5		.1	
MAR		258	4.2	23	35	2200	.06		19.5	1.6			4.2		.1	
APR		185	2.7	26	10	2400	.06		19.2	.3			3.6		.1	
MAY		178	3.0	25	20	2400	.04		25.8						1.9	
JUNE		132	3.7	28	25	2400	.03		27.5			24.3				144
JULY		179	4.7	38	30	2400	.05		24.9	.6			4.5			
AUG		132	4.0	20	20	2400	.02		25.8	2.7			4.3			
SEPT		184	7.0	65	30	2400	.07		22.8							
OCT		262	8.1	30	30	2400	.08		22.2	1.5			4.3		1.1	
NOV		217	6.4	100	15	2400	.12		14.4	1.6		18.9	3.8			112
DEC		142	2.4	30	85	2100	.07		9.6	1.7			4.2		.1	
TOTAL	4	2170	–	–	–	–	–	–	246.8	–	–	43.2	–	–	–	256
AVG.	.07 cu. ft/mil gal	181	4.0	35	33	2400	.07		20.9	1.5		21.6	4.0		.5	

Date Due

LAB

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